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JAPAN REPORT

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MILITARY

SELF-DEFENSE FORCE EQUIPMENT PROCUREMENT PROGRAM FY 81, 82

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 pp 5-7

[Text]

A service-by-service breakdown of major military equipment already procured in FY '80, to be funded in FY '81 and targeted for funding in FY '82 as revealed by the Defense Agency is charted below:

	FY '80 PROCUREMENT	FY '81 FUNDING	FY '82 TARGET	TOTAL
GSDF				
Model 74 tanks	60	72	169	301
Model 75 self-propelled howitzers	26	30	84	140
203mm self-propelled howitzers	0	6	37	43
Model 73 APCs	9	9	26	44
Wheeled APCs	0	0	68	68
Model 79 antiship/tank missile launchers	8	9	16	33
84mm recoilless guns	188	219	445	852

	FY '80 PROCUREMENT	FY '81 FUNDING	FY '82 TARGET	TOTAL
Model 75 130mm MSSRs	8	8	24	40
HU-1H helicopters	5	5	32	42
OH-6D helicopters	10	8	37	55
LR-1 aircraft	2	1	3	6
Hawk improvement program	1 gp	1 gp	0	2 gps
Short-range SAMs	0	4 sets	20 sets	24 sets
Portable SAMs	0	14 sets	137 sets	151 sets
MSDF				
DDG destroyers	0	1	1	2
DD destroyers	2	2	6	10
DE escort destroyers	1	0	3	4
Submarines	1	1	3	5
Minesweepers	2	2	7	11
Submarine tender	0	1	0	1
Marine observation ships	0	0	2	2
Supply ship	0	0	1	1
Transport ships	0	0	2	2
FRAM programs	0	1(ship)	5(ships)	6(ships)
P-3C anti-sub aircraft	10	0	27	37
HSS-2Bs (land-based)	0	0	21	21
HSS-2Bs (ship-borne)	2	6	17	25
S-61A helicopters	0	1	7	8
KM-2 trainers	0	1	3	4

	FY '80 PROCUREMENT	FY '81 FUNDING	FY '82 TARGET	TOTAL
TC-90 instrument trainers	2	4	10	16
ASDF				
F-15 interceptors	34	0	43	77
E-2C early warning aircraft	0	4	0	4
F-1 support fighters	3	2	8	13
C-130H transports	0	2	10	12
T-2 advanced trainers	4	6	13	23
V-107A helicopters	2	2	2	6
MU-2 aircraft	1	1	3	5
Short-range SAMs	0	2 sets	10 sets	12 sets
Portable SAMs	0	6 sets	114 sets	120 sets
TRI-SERVICE				
Central command system	R&D	construction starts	completion	

CSO: 4120/208

MILITARY

MT-X PRIME CONTRACTOR TO BE SELECTED BY SEPTEMBER

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 pp 7-8

[Text]

The Defense Agency is expected to select a prime contractor by September for its MT-X intermediate trainer development program which is to start in FY 1981 and last for seven years.

Prior to the selection, it will request proposals on the program from five domestic aircraft manufacturers through the Technical R&D Institute (TR&DI) by late April and receive the proposals by early June.

The prime contractor is likely to launch work on the basic design of the MT-X in October with a design team organized.

To evaluate the manufacturers' proposals, the agency is considering setting up a study committee headed by the TR&DI director-general. The committee is to consist of experts on technology, program management, costs and other aspects to ensure unified and smooth evaluation.

In selecting the prime contractor and a subcontracting group, the agency will fully consult with the Ministry of International Trade and Industry in view of the MT-X contract's significant bearing on the aircraft industry.

CSO: 4120/208

BRIEFS

155MM TOWED HOWITZER--The GSDF is believed to have selected the West Germany-Britain-Italy FH-70 as the basis for development of a new 155mm towed-howitzer program which it wants to start in FY 1982. Introduction of the new 155mm towed howitzer is expected to begin in FY 1984. At the same time, an improved version of the Model 75 155mm self-propelled howitzer will be developed with the gun of the new towed howitzer used to lengthen a target range. Its evaluation has covered the U.S. M-198 and the Swedish FH-77B as well as the FH-70. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 8]

CSO: 4120/216

ECONOMIC

JAPAN AIR LINES TO RAISE TRANSPACIFIC CARGO TRANSPORT CAPACITY

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 p 1

[Text]

Japan Air Lines (JAL) plans to increase its transpacific cargo transport capacity by 18 percent from the current 106,000 tons per year to 125,000 tons in September.

The plan is designed to forestall Nihon Kamotsu Koku's (Japan Air Cargo) move to launch freighter service on the transpacific routes, according to aviation sources. Nihon Kamotsu Koku is a new company for air freighter service founded by All Nippon Airways (ANA) and four shipping firms.

At present, international cargo traffic is active on all routes between Japan and the United States, Europe and Southeast Asia. JAL's domestic and international cargo revenues for FY 1980 ending March 31 are estimated at ¥123,000 million, of which its transpacific service accounts for ¥50,000 million. JAL captures 50 percent of transpacific cargo traffic and Flying Tiger 30 percent. The remainder is shared by Northwest, Pan Am and others.

JAL's freighter flights on the transpacific routes now total 21 per week--eight by DC-8-62s, three by DC-8-50s and 10 by Boeing 747 freighters. In increasing the capacity in September, it will boost jumbo flights to 13 while retiring three DC-8-50s and reducing DC-8-62 flights to seven. On the Tokyo-Los Angeles route, DC-8-62 flights will be cut from five to three while 747 flights will be increased from two to four. As to the Tokyo-San Francisco route, JAL will decrease DC-8-62 flights from five to four while increasing 747 flights from two to three. DC-8 flights on the Tokyo-New York-San Francisco route will be suspended.

JAL intends to use 747 freighters for all routes in the future.

CSO: 4120/208

MINISTRY OF TRANSPORT TO FREEZE DOMESTIC TRUNK CAPACITY

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 p 1

[Text]

The Ministry of Transport (MOT) has decided not to increase air traffic capacity on domestic trunk routes in FY 1981 (April 1981-March 1982) as passenger traffic has been declining. This is Japan's first one-year freeze on the trunk traffic capacity. A half-year freeze was introduced in the second half of FY 1980.

The decision has already been conveyed to the three trunk carriers--Japan Air Lines (JAL), All Nippon Airways (ANA) and Toa Domestic Airlines (TDA). In response, JAL, Japan's flag carrier, intends to transfer part of aircraft for domestic flights to international routes. ANA has delayed acquisition of three wide-body jets, planned for FY 1980, until FY 1981.

Between 1974 and 1979, JAL and ANA continued to increase trunk traffic capacity by an annual average of more than 10 percent through introduction of widebody jets. In the first half of FY 1980, however, traffic demand began to decline. JAL's passenger traffic on domestic trunk routes in the period posted a 7 percent fall from a year ago. Its domestic service is limited to trunk routes which extend between Tokyo, Sapporo, Osaka, Fukuoka and Okinawa. ANA's traffic on both trunk and non-trunk routes suffered a one percent decline, the first year-to-year fall since early 1965. Under such circumstances, the two carriers started a fare-cutting race in order to fill seats with passengers. Thus surplus capacity affected their business performance.

Demand also continued to decrease in the second half of FY 1980. JAL recorded a 2 percent year-to-year decline in October-December 1980 and a 17 percent drop in February 1981. ANA's traffic on trunk and non-trunk routes in the three-month period fell 3 percent. The MOT expects no recovery of air traffic for the immediate future.

DOMESTIC FLIGHTS INCREASED AT HANEDA

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 pp 1-2

[Text]

Flights between Tokyo International Airport (Haneda) and Japanese local airports will increase from late April to early May in the fourth expansion of flight allocations for Haneda since the transfer of most Haneda international flights to New Tokyo International Airport at Narita in 1978.

The MOT has decided to increase weekly flights by 68 or four each on 17 routes extending from Haneda as maintenance work on the airport's apron and taxiways has been completed. Of the 68 flights, 36 will be allocated to ANA and 32 to TDA. The decision will be implemented between late April and early May, although part of the increase will be delayed somewhat due to necessary coordination at Sendai, Niigata and some other local airports.

Of the 17 routes, the Haneda-Sendai and -Matsuyama routes will have six flights per day each, and the Haneda-Komatsu and -Kumamoto routes five each.

CSO: 4120/208

MINISTRY OF TRANSPORTATION PLANS TO EXPAND HANEDA AIRPORT

Tokyo JPRS AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 1

[Text] The Ministry of Transport (MOT) has drafted a final plan for extension of Tokyo International Airport (Haneda) taking local residents' demands into full account, thus paving the way for the start of the airport extension program in FY 1982 (April 1982-March 1983).

The plan suggests that Runway B be moved from the present position some 500 meters southwestward to meet noise requirements in the residential area around the airport, although the MOT's original proposal prepared in 1978 had not envisaged any move of the 2,500-meter crosswind runway.

The Haneda airport extension program is one of the major activities of the MOT's fourth airport improvement program (FY 1981-85). It envisages a new 3,000-meter main runway (D) to be built on an 880-hectare reclaimed-land site northwest of the existing airport. As a result, Haneda's capacity will be increased by 1.6-fold to 240,000 landings and takeoffs per year.

The final plan also revised the direction of Runways C' and D by five degrees northward compared with the original plan. Runway C' will replace the existing Runway C.

This revised plan has been submitted to the governments of Tokyo Metropolitan and of neighboring Ota and Shinagawa Wards. Tokyo's Governor Shunichi Suzuki has commented that the revised plan gives substantial consideration to local residents' demands, indicating it could be approved.

The MOT will prepare a master plan as soon as the revised plan is approved by local residents. According to the revision, partial construction work would short in FY 1982, with Runway C' completed by around 1990, and construction work ending on other runways and airport facilities by the end of 1995.

However, yet to be solved is the problem of how to raise construction funds, estimated at ¥500,000 million.

CSO: 4120/216

ALL NIPPON AIRWAYS TO REDUCE WEIGHT OF YS-11'S

Tokyo JPRS AVIATION REPORT-WEEKLY in English No 513, 22 Apr 81 pp 1-2

[Text]

All Nippon Airways (ANA) as a fuel-saving effort will complete a ¥280-million program to reduce the weight of its 18 YS-11 turboprop airliners by May. As of the end of March, it had ended weight-reduction work on 11 aircraft.

Under the program, the weight is being reduced by about 156 kilograms per aircraft. Each 20-kilogram two-passenger seat is being lightened by four kilograms with lightweight materials used, and the floor-carpet weight is being decreased by 14 kilograms.

ANA estimates the weight-reduction program will cut YS-11 fuel consumption by 0.2 percent. The investment is effective at a time fuel prices have increased sharply, officials say.

In other fuel-saving efforts, ANA has delayed engine starts before takeoff since Oct. 1, 1980 and decreased use of auxiliary power units since Nov. 1.

The carrier intends to further promote such energy-saving efforts in order to cope with fuel price hikes.

CSO: 4120/216

ENGINEERING RESEARCH ASSOCIATION PREPARES FY 1981 PLAN

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 pp 1-3

[Text]

The Engineering Research Association for Aero-jet Engines (ERAAE) has prepared its business plan for FY 1981 starting in April, involving the FJR turbofan engine development, general research activities, the Japan-Britain RJ500 aircraft engine development and the STOL (short takeoff and landing) aircraft engine development.

Its budget for the year totals ¥9,262,037,000. Of this figure, ¥1,702,890,000 for the FJR project, ¥17,170,000 for the general research project, ¥7,080 million (¥4,720 million in government loans and ¥2,360 million by industry) for the RJ500 project, ¥446,510,000 for the STOL project, and the remainder for personnel and management expenses. A summary of ERAAE's FY '81 activities is as follows:

FJR Project

The second-stage prototype will be tested to examine durability, reliability and environmental effects in FY 1981. Major test subjects are below:

(1) Performance and functioning: Performance reduction calibration and other performance and functioning tests will be conducted along with reliability tests for accessories.

(2) Durability: To improve reliability, 300-hour running and low-frequency fatigue tests will be conducted.

(3) High-altitude ice formation: Britain's National Gas Turbine Establishment (NGTE) will be used for high-altitude ice formation tests to confirm ice formation, anti-ice capability and performance during ice formation amid simulated high-altitude flights.

(4) Overall evaluation: Tests involving performance and functioning, environmental changes, noise, exhaust gas and other aspects will be conducted for technical evaluation of performance.

General Research

Parametric study on performance of turbofan engines with a high bypass ratio will be conducted, along with technical survey on aircraft engine development in Europe and the United States.

STOL Engine

Two FJ$710/6008 engines will be fabricated to power an experimental STOL aircraft.

RJ500 Engine

Activities for FY 1981 include detailed design and fabrication of prototypes for ground tests, manufacture of metallurgical tools and elemental tests. Details are listed below:

(1) Planning and development: A survey on engine development will be conducted with coordination of the RJ500 project advancing between Japanese firms concerned and Britain's Rolls-Royce.

(2) Design: Detailed design of the first-stage prototype for ground tests will be completed, while that of the second-stage prototype will start. Test programs will be prepared for development of the fan, low-pressure turbine and other engine components. Analysis of their test data is also planned for FY 1981.

(3) Test development: A variety of tests will be conducted on the fan, low-pressure turbine and other engine components to examine their aerodynamic and heating characteristics, performance, deflection, fatigue and rigidity.

(4) Fabrication of prototypes: Metallugical tools for fabrication of two prototype engines for ground tests will be manufactured. Fabrication of the first prototype will start in the beginning of FY 1981 and that of the second prototype in the middle. Manufacture of spare parts for the prototypes will also be launched.

CSO: 4120/208

SONY APPOINTED SALES AGENT FOR AEROSPATIALE HELICOPTERS

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 p 3

[Text]

Helicopter Division of Aerospatiale has appointed Sony Corporation as its general sales agent for all types of the Aerospatiale helicopters in Japan. Nozaki & Co., Ltd. which successfully handled sales of Aerospatiale helicopters here will continue to market the French aircraft for the private sector and the National Fire Defense Agency. OFEMA will continue its relations with Nozaki as a non-execusive export representative of Aerospatiale.

More than 3,600 Aerospatiale helicopters are presently in service with operators in 96 countries. The French company has more than 20 percent share in the American helicopter market. It recently won orders for 90 Dauphin 2 twin-turbine helicopters from the United States Coast Guard after keen competition with American helicopter manufacturers. It also sold 35 Super Puma helicopters to the Bristow Company of the U.K. for off-shore operations in early January.

CSO: 4120/208

NEW AIR SELF-DEFENSE FORCE BADGE PROGRAM

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 pp 3-4

[Text]

The Air Self-Defense Force (ASDF) intends to name a domestic computer manufacturer as the prime contractor for development of a new BADGE air defense system, although foreign companies are also interested in the ¥200,000 million project.

It will ask the U.S. Defense Department to approve this policy as it has commissioned the U.S. Air Force Electronics Systems Command and MITRE Corp. to reveiw the current BADGE system and determine the best future system. The system study was conducted from FY 1979 to 1980.

Although the ASDF thus sought cooperation of the United States in system study and other software aspects of the new BADGE system, it wants a domestic maker to manufacture the hardware, including computers. A domestic prime contractor, which will be responsible for the whole aspects of the program, will be allowed to cooperate with foreign manufacturers in the project.

So far, six domestic companies, including Nippon Electric Co., have expressed hope to undertake the program. The ASDF will receive their proposals by June and select a prime contractor from them. It plans to earmark funds for basic design of the new BADGE system in the FY 1982 budget.

The new BADGE system will be completed by 1986 or 1987 when the existing system will become outdated.

CSO: 4120/208

THREE FIRMS VYING FOR LICENSE PRODUCTION OF 203MM HSP

Tokyo AVIATION REPORT-WEEKLY in English No 316, 8 Apr 81 pp 4-5

[Text]

Mitsubishi Heavy Industries Ltd. (MHI), Komatsu Ltd. and Hitachi Ltd. are vying for the Defense Agency's contract for license production of the U.S. 203mm self-propelled howitzer.

The agency will negotiate with the United States on license production until May or June and then will select a contractor which will undertake assembly of the whole system. Japan Steel Works has been named to manufacture the gun-barrel support. The gun barrel and engine will be manufactured in the United States and imported into Japan for assembling.

MHI and Komatsu are seen as promising candidates, according to Defense Agency sources. But Hitachi, which has so far had little experiences in manufacture of weapons systems, is very eager to obtain the HSP contract to launch full-scale participation in the defense industry.

The Japanese industry may be capable of developing and manufacturing the 203mm HSP as it has so far developed less-than-155mm HSPs. But license production has been adopted to save development time and money. The United States is the only country to have the 203mm HSP production technology.

Japan's procurement of the 203mm HSP for the Ground Self-Defense Force (GSDF) is to start in FY 1981. The year's budget includes ¥1,768 million for import of six units from the United States. The FY 1980-84 Medium-Term Defense Program (MTDP) calls for procurement of 43 units in the five years. In FY 1982, the GSDF intends to request 13 units. Eventually, 203mm HSP procurement is expected to total more than 100 units.

As to the Model 75 155mm HSP, the GSDF plans to request at least 30 units in FY 1982, following 26 units in FY 1980 and 30 units in FY 1981. The MTDP envisages procurement of 140 units in the five years.

CSO: 4120/208

COMBUSTION TESTS ON KEY H-I ENGINE SUCCEEDED

Tokyo AVIATION REPORT-WEEKLY in English No 516, 8 Apr 81 p 8

[Text]

The National Space Development Agency (NASDA) has succeeded in combustion tests on a prototype of the second-stage engine as a key component for the H-I rocket, bringing about bright prospects for successful development of the H-I rocket to launch large geostationary satellites in a decade from 1985.

In the tests conducted at MHI's Tashiro test facility in Akita Prefecture on March 26, NASDA confirmed a 30-second normal combustion of the LE-5 prototype engine. NASDA uses liquid hydrogen and oxygen fuels for the engine for the first time in Japan to upgrade the rocket's launching capability. The combustion tests will last until July to turn out data for development of a practical engine which will start in FY 1983.

The H-I rocket will replace the N-II rocket which launched a satellite for the first time in February. The H-I will be able to launch a satellite weighing 500 to 800 kilograms.

CSO: 4120/208

SCIENCE AND TECHNOLOGY

SPACE INDUSTRY EXPECTED TO SHIFT TO R&D APPLICATION

Tokyo AVIATION-REPORT-WEEKLY in English No 516, 8 Apr 81 pp 8-10

[Text]

Japan's space industry is expected to shift to application of technology from technical research and development in the next 10 years with its market scale expanding to the ¥600,000 million-per-year level from the current ¥100,000 million level, according to a draft report of an advisory council to the Ministry of International Trade and Industry. The report on a long-term vision of Japan's space industry will be submitted to the ministry in late April.

In order to support the expected upward trend, the report will recommended that the industry establish a technical foundation independent of foreign technology, diversify space utilization and explore space equipment demand through penetration into overseas markets.

The government will further be advised to relax the radio law, the public telecommunications law and other space-related laws for gradual liberalization of space use. This report will serve as a basis for the ministry's future space industry promotion policy.

The draft report estimates Japan's space industry market to total more than ¥1,000,000 million in the 1981-85 period and more than ¥2,000,000 million in the 1986-90 period. On an annual basis, the market will be valued at more than ¥600,000 million as of 1990. The world's market for space-related equipment, exclusive military-purpose equipment, is estimated to total $20,000 million in the 1981-85 period and $35,000 to 40,000 million in the 1986-90 period.

Over the 1980s, big projects for space utilization, including the space shuttle program of the United States, are expected to advance in the world, though it would be difficult for Japan to take the initiative in such projects.

The Japanese space industry's dependence is expected to shift from government orders for research and development to the private sector's orders for application of technology over the next decade. During the shift, Japan's space technology should grow independent of the United States and Europe. An independent technical foundation could be established by promoting ground tests of space equipment to make up for shortages of space experiences, by unifying state-run institutes concerned and by promoting utilization of the private sector's resources.

Independent technology for space equipment materials will be necessary to step up bargaining power for export of space equipment parts. As to rocket technology, the government would have to take the initiative in promoting development of high-performance rockets. Cooperation with foreign countries in the development of space equipment is also conceivable. Thus, both the government's assistance and the private sector's resources are designed to play an important role in expanding Japan's space industry.

As for exploration of demand, new possible demand areas will include private companies' in-house telecommunications via satellites and unique utilization of meteorological and earth resources observation satellites. In order to promote such demand, legal controls on space utilization would have to be relaxed.

CSO: 4120/208

MCDONNELL DOUGLAS CORP APPROACHES COUNTRY ON Y-XX

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 pp 2-3

[Text]

McDonnell Douglas Corp. (MDC) is approaching the Japanese aircraft industry again on the Y-XX medium transport development program at a time when the Japanese are hesitating to select Boeing Co. as a partner in the program. Industry sources said MDC is expected to propose development of a 150-seat transport as the Y-XX by the end of April instead of a 170-seat aircraft which it put forward in approaching the Japanese last year. The Japanese scheme also envisages a 150-seat transport.

So far, a Japan-Boeing-Fokker combination has been seen as the most likely for the Y-XX program. But the Japanese industry is hesitating to choose the tripartite combination because Boeing has demanded exclusive rights to a Y-XX design. The U.S. aerospace giant has also suggested a modified Boeing 737 rather than a new aircraft for the Japanese program in a bid to incorporate the Y-XX into its 7X7 series as in the case of the Boeing-Japan-Italy 767 (Y-X) program. The Japanese industry has served virtually as a subcontractor in the 767 program. The Boeing proposal on the Y-XX program does not meet Japan's purpose to bring its aircraft industry up to a higher level by the Y-XX program through full cooperation between the private and government sectors.

The Japanese industry has welcomed MDC's approach which it expects to help increase Japan's bargaining power in external talks on the Y-XX program. Both Boeing and MDC apparently hope to use Japan's quality labor and technology through participation in the program.

The sources said if Boeing sticks to its original proposal, the Japanese could select other foreign manufacturers, including MDC or Airbus Industrie, as partners. There is the possibility of an MDC-Fokker-Airbus Industrie alliance, which may become competitive to a future Boeing program, local industry sources say.

The Y-XX program is to start with basic research in FY 1981 as the government's budget includes ¥352,973,000 for it. The industry will soon begin planning work, including selection of foreign partners.

CSO: 4120/208

MAJOR FY 1980 MILITARY EQUIPMENT CONTRACTS

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 pp 3-8

[Text]

The Central Procurement Office of the Defense Agency awarded at the end of March contracts on major military equipment funded in FY 1980. The contracts related to F-15 interceptors, P-3C antisubmarine patrol aircraft, important guided weapons and naval vessels are listed below:

(Unit: ¥1 million)

ITEM	Q'TY	AMOUNT	CONTRACTOR
(F-15 & EQUIPMENT)			
F-15 interceptors	30	142,956	Mitsubishi Heavy Industries Ltd. (MHI)
Engines for same	60	57,316	Ishikawajima-Harima Heavy Industries Co. Ltd. (IHI)
AN/APG-63 radars	30	19,667.4	Mitsubishi Electric Corp. (MELCO)
OA-8639/ARD UHF/DF	30	166.8	MELCO
CP-1075/AYK central computers	30	849.3	"
OD-60A indicator groups	30	1,160.7	Tokyo Keiki Co.
AN-ASN-108 gyros	30	970.1	"
AN/ASK-6 air data computers	30	441.6	"

ITEM	Q'TY	AMOUNT	CONTRACTOR
J/APR-4 radar warning systems	30	2,388.9	Tokyo Keiki Co.
J/ASW-10 data links	30	926.1	Hitachi Ltd.
CN-1377/ASQ lead computing gyros	30	939	Toshiba Corp.
AN/ASN-109 inertial navigation systems	30	3,180	"
AN/ARN-118 TACAN systems	30	360	Nippon Electric Co. (NEC)
AN/APX-76A (V) IFF interrogators	30	276.9	Toyo Communication Equipment Co.
AN/APX-101 IFF responders	30	213	"
M61A1 20mm machine-gun systems	30	1,551	Nittoku Metal Industry Co.
V-1000AB AVTR	30	25	TEAC Corp.
AN/AVQ-20 headup display systems	30	1,940	Shimadzu Corp.
AN/AXQ-16 (V) CTVS	30	217.4	Okura & Co.
Outer fuel tanks	90	355.4	Shin Meiwa Industry Co.
(P-3C & EQUIPMENT)			
P-3C antisub patrol aircraft	10	47,455	KHI
Engines for same	40	6,876	IHI
Propellers for same	40	2,134	Sumitomo Precision Ind.
URC-22 rescue radios	6	11.7	Taiyo Musen
USC-12 signal converters	5	36	NEC

ITEM	Q'TY	AMOUNT	CONTRACTOR
HSC-14 communication systems	5	22.1	NEC
AN/ASA-66A auxiliary display systems	19	260	"
AN/ASA-76 sono-buoy control systems	8	167.8	"
AN/ARN-118 (V) TACANs	10	132.9	"
AN/AQA-7 (V) 4/5 DIFARs	20	2,464.1	"
HSC-112 VHF radios	10	55.8	"
HSC-11 voice processors	5	44.9	"
CU-2070/ARC HF impedance systems	20	254.3	"
AN/ARC-161 HF radios	20	934.7	"
AN/ARA-50 UHF automatic direction finders	5	11	MELCO
AR/ARQ-180 magnetic detectors	10	553.9	"
AN/AR-143B UHF radios	20	767.9	"
HRN-101B automatic direction finders	10	46.4	"
AN/ALQ-78 counter detection systems	10	1,140	"
HPQ-2 altitude warning systems	15	22.6	Nagano Japan Radio Co.
AN/AIC-22 (V) interphones	10	269	"
AN/AYA-8B tactical data systems	10	7,423.8	Toshiba
HRN-107 instrument landing systems	10	142.7	"

ITEM	Q'TY	AMOUNT	CONTRACTOR
LTN-72 inertial navigation systems	20	1,377.6	Toshiba
AN/APS-115B search radars	10	1,459.4	"
AN/APN-194 (V) radio altimeters	10	60.5	Japan Aviation Electronics Ind.
AN/ASA-70 tactical display systems	10	1,603.1	Fujitsu Ltd.
AN/URT-26 (V) crash position indicators	10	112	"
AN/ARR-72 (V) sono-buoy receivers	10	440.1	Japan Radio Co.
R-165/ARA sono-buoy indicators	10	32.1	"
AN/APX-76A (V) IFF interrogators	10	146.7	Toyo Communication Equipment
AN/APX-72 IFF responders	10	65	"
ARN-99 (V) Omega navigation systems	10	209.9	Furuno Electric
AN/ACQ-5A data terminals	10	645	Hitachi Ltd.
AN/AGC-6 teletypewriters	11	422	Oki Electric Co.
N-RO-40/HMH RT recorders	10	34.5	"
AN/APN-227 Doppler navigation systems	10	301.7	Mitsubishi Precision Co.
Microphones	11	7.2	Iwasaki Tsushinki Co.
AN/AQH-4 (V) sono-data recorders	10	285	Ikegami Tsushinki Co.
AN/AWG-19 (V) missile fire-control systems	10	1,276.4	MHI
Type 55 signal pistols	10	1.4	Shin Chuokogyo Co.

ITEM	Q'TY	AMOUNT	CONTRACTOR
Signal pistol mounts	15	1.1	Shin Chuokogyo Co.
BRU-12/A bomb racks	81	59.1	"
BRU-14/A bomb racks	31	40.3	"
BRU-15/A bomb racks	41	32.1	"
AERO-1A adapters	51	36.4	"
Arming units	50	2.2	"
Adapter mountings	40	0.8	"
Magnetic recorders	10	70	Shimadzu
AN/ASA-64A magnetic singal processors	11	65.9	"
APU	10	204.8	"
A/A24G-911 true air speed transmitters	10	117.7	"
AN/ASA-65 (V) automatic magnetic compensators	10	211.6	"
CV-2461A signal converters	10	462.7	"
(GUIDED WEAPONS)			
Improved Hawk system components	-	23,405.3	MELCO
"	-	10,582.9	Toshiba
Sea Sparrow systems	2	2,331.7	MELCO
AIM-7E Sparrows	87	3,556.2	"
(NAVAL VESSELS)			
2,900-ton DD destroyer	1	11,995	IHI
"	1	11,990	Sumitomo Heavy Industries

ITEM	Q'TY	AMOUNT	CONTRACTOR
1,400-ton DE frigate	1	7,470	Hitachi Shipbuilding
2,200-ton SS submarine	1	15,680	MHI
440-ton MSC minesweeper	1	2,475	Nippon Kokan
"	1	"	Hitachi Shipbuilding
Olympus/Tyne gas turbine powerplants	for 2 DDs	8,360	Kawasaki Heavy Industries Ltd. (KHI)
Olympus gas turbine powerplant	for 1 DE	1,480	"

CHO: 4120/208

FULL-SCALE WORK ON SAM-X SCHEME TO BE STARTED SOON

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 pp 8-9

[Text]

The Japanese Defense Agency (JDA) is expected to start full-fledged work soon on the SAM-X next generation surface-to-air missile introduction program for the Air Self-Defense Force (ASDF) and the Ground Self-Defense Force (GSDF) as an ASDF-GSDF SAM-X survey team returned home late in March from an information gathering tour of the United States and West Europe.

In the work, the JDA will study when to select the SAM-X and start procurement. At present, it hopes to launch procurement in FY 1983 after another survey team is sent abroad for final selection.

The SAM-X is designed to replace the GSDF basic Hawk and ASDF Nike-J systems. Candidates for the SAM-X include the Raytheon XMIM-104 Patriot and the Nike Phoenix proposed by Mitsubishi Heavy Industries Ltd. (MHI) in cooperation with MDC and Hughes Aircraft Co.

The survey team, which followed a similar mission sent abroad in September-October 1979, visited the United States for 18 days from March 9 to gather information on the two SAM-X candidates. The GSDF mission members were Maj. Gen. K. Takagi, Director of the Logistics Department's Ordnance and Chemical Division, and the Plans and Operation Department's Col. H. Nakajima, Lt. Col. M. Sato and Maj. S. Sato. The ASDF members were Col. N. Takeuchi, Lt. Col. A. Kawakatsu, Lt. Col. N. Tada and Maj. T. Suzuki, all from the Defense Department's SAM-X Planning Office, and Lt. Col. S. Masumoto of the Development Department. Of them, Lt. Col. Tada also visited Europe along with ASDF Defense Department Director Maj. Gen. T. Shimizu, who arrived in the United States ahead of the survey team, to study the SAM-X program of the North Atlantic Treaty Organization (NATO).

CSO: 4120/208

TALKS WITH UNITED STATES ON AIM-9L LICENSE PRODUCTION

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 p 9

[Text]

Yoshio Uehara, Chief of the Guided Weapons Office, Aircraft Division, JDA Equipment Bureau, left for the United States at the end of March for talks with American government officials on Japan's license production of the AIM-9L Sidewinder air-to-air missile for the F-15J Eagle fighter.

The talks will deal with a new agreement between the Japanese and U.S. governments, which is necessary for Japan's AIM-9L procurement with the Americans.

The Americans have agreed to release the AIM-9L's warhead, rocket motor, safety system and others for Japan's license production in FY 1981 and the guidance and control section in October 1982, although they have refused to release the active optical target detector (AOTD). As a result, the JDA has decided to procure 171 AIM-9Ls funded in the FY 1981 budget and following missiles through domestic license production. Its AIM-9L procurement is expected to amount to 2,000 to 3,000 units for both F-15Js and F-4EJs.

The ASDF is expected to select a prime contractor for AIM-9L production by the end of April from MHI, Toshiba Corp. and Mitsubishi Electric Corp. (MELCO), which have already submitted proposals to the ASDF. In order to win the AIM-9L contract, MHI has cooperated with Raytheon, Toshiba with Ford Aerospace & Communications (FACC) and MELCO with both of them. The infrared AIM-9L has been developed by Raytheon and FACC.

MHI is the most promising candidate for selection as the prime contractor because it has experience in the production of infrared AAMs.

CSO: 4120/208

ISHIKAWAJIMA-HARIMA RECEIVES 5 -XF-3-30 PROTOTYPE ENGINES ORDER

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 p 10

[Text]

The JDA Central Procurement Office has placed a ¥4,358,793,000 order with Ishikawajima-Harima Heavy Industries Co. (IHI) for five prototypes of the XF-3-30 small turbofan engine, spare parts and relevant tests as requested by the Technical R&D Institute (TR&DI). These prototypes will be used together with four others to be procured in FY 1981 for various tests to explore the possibility of the small turbofan engine being installed for operational use on an aircraft.

The TR&DI is eager to adopt the XF-3-30 engine for the MT-X next-generation intermediate jet trainer to be developed from FY 1981. With the MT-X program in mind, it has incorporated a cost-control clause into the contract with IHI. Costs are expected to become a major factor for selection of an engine for the MT-X.

Although the TR&DI has given up specifying costs for future mass production of the engine in the contract, it is entitled under the clause to receive reports on cost control from the manufacturer for technical evaluation. This is the first time that such a cost control clause is included in a contract for fabrication of prototypes. This clause is expected to be applied to other contracts for defense equipment whenever costs have a major bearing on procurement.

CSO: 4120/208

TR&DI TO CONTINUE HTPB DEVELOPMENT IN FY 1982

Tokyo AVIATION REPORT-WEEKLY in English No 517, 15 Apr 81 p 10

[Text]

The TR&DI may continue development of the HTPB (hydroxyl terminal polybutadiene) propellant in FY 1982 as part of basic research for future missile development projects, according to informed sources.

The HTPB is a next-generation composite propellant featuring stable composition. If the propellant is used for missiles, a wider range of controls on combustion speeds could be implemented. Other advanced nations have already been making efforts to develop such a propellant and the TR&DI wants to catch up with them. In FY 1981, ¥100 million is set aside for the HTPB program as originally requested.

Experts place great expectations on development of the HTPB propellant which they speculate could be applied to a variety of missiles, including air combat missiles as well as surface-to-air missiles.

CSO: 4120/208

DEFENSE AGENCY'S EQUIPMENT CONTRACTS TOTALED 954.5 BILLION YEN

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 pp 2-3

[Text]

The Japanese Defense Agency's defense equipment contracts concluded in FY 1980 (April 1980-March 1981) shot up by ¥309,300 million over ¥645,200 million in FY 1979 to ¥954,500 million in value, attesting to the Self-Defense Forces' (SDF) large-scale equipment modernization. The total number of contracts, however, fell from 10,643 to 9,991.

Equipment for FY 1980 procurement included 30 F-15J fighters worth ¥200,300 million and 10 P-3C antisubmarine warfare aircraft worth ¥54,300 million.

Defense equipment contracts for Mitsubishi Heavy Industries Ltd. (MHI), a top defense contractor in Japan, scored a sharp increase of 142 percent in value to an all-time high of ¥234,500 million.

Of the total defense contracts in FY 1980, the Ground Self-Defense Force (GSDF) accounted for 3,064 contracts (up 330 over FY 1979) or ¥166,100 million (up ¥22,600 million), the Maritime Self-Defense Force (MSDF) 3,478 contracts (down 746) or ¥316,100 million (up ¥21,600 million), and the Air Self-Defense Force (ASDF) 2,989 contracts (a marginal increase) or ¥445,700 million (up ¥260,900 million). Thus, the ASDF achieved the largest procurement value among the three services.

Among GSDF contracts, MHI and Japan Steel Works Ltd. was awarded a ¥17,900-million contract for 60 Model 74 tanks and a ¥6,700-million contract for 26 Model 75 155mm self-propelled howitzers. MHI manufactures the bodies of the tanks and howitzers, while Japan Steel fabricates the guns. The GSDF's ¥34,000 million contract for the improved Hawk antiaircraft missile system was given to Mitsubishi Electric Corp. (MELCO) and Toshiba Corp.

MSDF equipment included two 2,900-displacement-ton destroyers (worth ¥24,000 million) each for Ishikawajima-Harima Heavy Industries Co. (IHI) and Sumitomo Heavy Industries Ltd., and a 2,200-displacement-ton submarine (¥15,700 million) for MHI. A contract for the 10 P-3Cs was shared by Kawasaki Heavy Industries Ltd. (KHI) as airframe prime contractor and IHI as engine prime contractor.

As for ASDF contracts, an MHI-IHI group was awarded a ¥200,300-million contract for 30 F-15Js, a ¥7,100-million contract for four T-2 advanced trainers and a ¥5,600-million contract for three F-1 support fighters. MHI manufactures the airframes for these aircraft and IHI the engines. IHI also recieved a ¥4,600-million order for development of the XF3 small turbofan engine (which is the prime-candidate engine for the planned MT-X replacement trainer program.)

Japan's "top 10" defense contractors in FY 1980 were as follows:

		Contract Value
1	Mitsubishi Heavy Industries Ltd. (MHI)	234,500 m. yen
2	Ishikawajima-Harima Heavy Industries Co. (IHI)	108,800
3	Kawasaki Heavy Industries Ltd. (KHI)	81,100
4	Mitsubishi Electric Corp. (MELCO)	72,400
5	Toshiba Corp.	32,900
6	Nippon Electric Co. (NEC)	22,300
7	C. Itoh Aviation Co.	14,100
8	Nippon Oil Co.	13,000
9	Japan Steel Works Ltd.	12,300
10	Sumitomo Heavy Industries Ltd.	12,000

CSO: 4120/216

LOCAL CONTENT TO RISE FOR F-15, P-3C

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 4

[Text]

Japan's license production ratios (local content) in value for the second F-15J and P-3C contracts will be raised by 15 percent over the first contracts to 55 percent for the F-15J and by 15.4 percent to 70.4 percent for the P-3C.

The second contracts were concluded at the end of FY 1980 (in March 1981) to cover 30 F-15J fighters and 10 P-3C antisubmarine patrol aircraft. The FY 1978 first contracts covered 15 F-15Js and five P-3Cs.

Details of the local content ratios follow:

F-15J

Airframe: 56.7 percent (61.4 percent with R&D aspects excluded)
Engine: 48.3 percent
Installed components: 59.3 percent

P-3C

Airframe: 71.5 percent (75.5 percent with R&D aspects excluded)
Engine: 64.0 percent (60.6 percent for the principal engine, 79.3 percent for the propeller and 27.5 percent for the auxiliary power unit)
Installed components: 67.3 percent (67.5 percent for electronic systems and 32.3 percent for weapons systems)

CSO: 4120/216

MITSUBISHI HEAVY INDUSTRIES, MELCO TO STUDY F-4EJ IMPROVEMENT

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 4

[Text]

The ASDF has asked MHI and MELCO to study ways to improve the F-4EJ fighter's performance, including adoption of a new fire-control system (FCS), before finalizing its F-4EJ improved design plan. Some ¥1,300 million is earmarked for the project in the FY 1981 budget.

In their response, expected soon, the two firms may propose several types of the FCS, including the Westinghouse APG-66J and the Hughes Aircraft APG-65J.

On the basis of their proposal, the ASDF will study details of the F-4EJ improvement and decide on a final configuration covering new mounted equipment by the end of June.

At that time, ASDF will prepare a budget request regarding the F-4EJ improvement program for FY 1982.

CSO: 4120/216

TOKYO KEIKI TO DEVELOP INS FOR SUBMARINES

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 5

[Text]

Tokyo Keiki Co. will deliver a prototype inertial navigation system (INS) for submarines to the Defense Agency by the end of FY 1981 or March 1982 under a contract with the Agency's Technical R&D Institute (TR&DI).

The prototype INS will undergo demonstration tests on surface ships in FY 1982 and 1983 before being mounted on submarines around 1985.

Tokyo Keiki has engaged in study and partial fabrication of the INS since around 1973 with about ¥900 million appropriated from the agency. The FY 1981 budget includes about ¥1,100 million for the final stage of the INS development program.

The INS using the precison gyro and accelerometer is designed to provide data on east-west and north-south acceleration of submarines so that they can go round the world without surfacing to collect geographical data. The system will also enable submarines to know their exact position and launch missiles appropriately.

Tokyo Keiki has built a "clean room" at its Nasu Works in Tochigi Prefecture for the INS whose accuracy depends on the precision of the gyro. It expects that the INS will also be applicable to commercial surface ships.

CSO: 4120/216

TWENTY-TWO FIRMS TO PARTICIPATE IN PARIS AIR SHOW

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 pp 5-7

[Text]

The Society of Japanese Aerospace Companies (SJAC) and its 22 member companies will join the 34th Paris Air Show June 4-14 in cooperation with the Japan External Trade Organization (JETRO). Their exhibits were shipped from Japan at the end of March. The Japanese participants will use 27 booths with a total area of 253 square meters at Hall D of the first building in the air show as they did in the 1979 show. They will also set up a reception chalet at A24. The participants and their exhibits are as follows:

Ishikawajima-Harima Heavy Industries Co. : a set of engine parts, and photo panels of engines and other products.

Kawasaki Heavy Industries Ltd. : models of the BK-117 and KV-107 helicopters and photo panels.

Shimadzu Corporation : a fuel shutoff actuator, a digital air data computer and other aircraft parts.

New Japan Aircraft Maintenance Co. : photo panels of galleys and lavatories.

Shin Meiwa Industry Co. : a model of the US-1 flyingboat and photo panels.

Sumitomo Corp. : binocular telescopes.

Sumitomo Precision Products Co. : an MU-300 landing gear, a tail plane trim acutator, a propeller controller and others.

Teijin Seiki Co. : an attitude indicator, an aircraft hydraulic pump and others.

Tokyo Koku Keiki Co. : altimeters, speed meters and digital pressure gauges.

Tokyo Screw Mfg. Co. : aircraft fastners.

Toray Industries, Inc. : advanced composite materials (carbon fiber).

Nissan Motor Co. : models of M-3S and other rockets.

Japan Aviation Electronics Industry Co. : an autopilot system, a yaw damper system, a radio altimeter and a servo-accelerometer.

Nippon Electric Co. : a fixed transmitter of the microwave landing guidance system.

Japan Aircraft Mfg. Co. : a model and photo panels of the B-4 glider.

Fuji Heavy Industries Ltd. : models of the FUJI/700 business aircraft and T-3 trainer, and photo panels of the Boeing 767 fairing and other products.

Hokushin Electric Works ltd. : a fuel indicator, an oscillator and an amplifier.

Mitsubishi Heavy Industries Ltd. : models of the MU-2 business jet and T-2 trainer, and photo panels.

Yokohama Rubber Co. : a flex tank, a flex span and a fuel tank.

Engineering Research Association for Aerojet Engines: photo panels of the RJ500 engine.

SJAC : models of meteorological, communications and broadcasting satellites, and photo panels of the Boeing 767.

CSO: 4120/216

KHI/BOEING TO PRESENT CH-47 TO AIR DEFENSE FORCE

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 7

[Text]

KHI and Boeing Vertol are to propose the CH-47-414 as well as the improved KV-107 as the new CH-X transport helicopter which the ASDF intends to procure from FY 1983. At an imminent meeting with the ASDF, they will explain about the U.S. Army-certificated CH-47-414 in comparison with the Sikorsky CH-53E, another CH-X candidate. The ASDF is expected to select the CH-X and prepare a specific procurement program by early FY 1982.

It plans to deploy two CH-X helicopters initially, and three each eventually, for the Northern, Central and Western Air Defense Forces and the Southwestern Composite Air Division.

Originally, the ASDF had intended to start CH-X procurement in FY 1981. But this plan has been given up with priority given to C-130H transports.

The ASDF now wants to incorporate the CH-X program into the FY 1983-87 Medium-Term Defense Program to be drafted in the current fiscal year so that CH-X procurement will start in FY 1983 or after.

CSO: 4120/216

MARITIME FORCE MAY REQUEST PM-X PROGRAM IN FY 1982

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 pp 7-8

[Text]

The Maritime Self-Defense Force (MSDF) is expected to make a decision within April on the PM-X new missile-armed patrol boat development program which it wants to incorporate into the JDA's FY 1982 budget request in August.

The PM-X is designed to replace the existing 100-ton PT vessels. In FY 1982, the MSDF intends to construct a prototype for operational evaluation. Prior to the imminent decision, it is now evaluating three different candidate types for the PM-X. They are the commercial jet foil type (proposed by Hitachi Shipbuilding and Engineering Co.), the semi-submersible type (Mitsui Engineering and Shipbuilding Co. and also MHI) and the slide type (MHI).

The MSDF intends to unify views on the PM-X program within the JDA before the decision based on comprehensive evaluation covering the past research results, estimated life cycle costs and all other aspects.

CSO: 4120/216

MARITIME FORCE PLANS THIRD-STAGE GRX-2 FABRICATION

Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 pp 8-9

[Text]

The Maritime Self-Defense Force and the Technical R&D Institute (MSDF/TR&DI) are expected to request funds for the third-stage fabrication of prototypes of the GRX-2 high-speed, long-range homing torpedo in FY 1982 after the first-stage fabrication in FY 1980 and the second stage in FY 1981, according to informed sources.

The GRX-2 torpedo program entered an engineering development stage in FY 1980 with ¥2,000 million earmarked after 10 years of basic research. As for FY 1981, the government authorized ¥2,780 million for the program against the requested ¥4,500 million.

Japan cannot expect any assistance from abroad in development of high-speed homing torpedoes because every foreign country keeps such technology secret. Although the U.S. Navy is proceeding with engineering development of a so-called MK-47 torpedo of that kind, no data is available for the TR&DI. Therefore, the TR&DI has spent much time on the basic research, including fabrication of multiple types of cruising bodies, before the engineering development.

Although details of the GRX-2 torpedo are not available, experts speculate that the GRX-2 will be a sophisticated antisubmarine torpedo using a swash-plate engine. It will be guided by radio for a certain time after launching and then, home on the target on its own, they say.

CSO: 4120/216

BRIEFS

FABRICATION OF SOFT-RECOIL GUN--The TR&DI has decided to start full-scale fabrication of a soft-recoil self-propelled gun in FY 1982 after partial fabrication in FY 1980 and technical tests of fabricated components in FY 1981, according to informed sources. The full-scale fabrication is estimated to cost ¥2,000 million. The TR&DI is expected to demand the funds when the JDA drafts a budgetary request for FY 1982 this summer. The gun is designed to have a unique hydraulic system to hold down recoil of the gun barrel on firing and thus simplify the firing process. A smaller, lightweight gun barrel will be adopted to reduce the weight of the gun vehicle for higher mobility. The self-propelled gun will also have an improved firing accuracy and a lengthened shooting range. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English No 518, 22 Apr 81 p 9]

CSO: 4120/216

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